

## REMARKS

The present amendment and request for reconsideration is filed in response to the Office Action mailed December 30, 2005, the period of response having been extended until June 30, 2006. Claims 1-19, 21, and 22-33 are pending in the application.

In the Office Action, Claims 1-19 and 21 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-26 of U.S. Patent No. 6,728,946. Applicants are filing a terminal disclaimer in compliance with 37 C.F.R. 1.321(c) to overcome the rejection. It is, therefore, requested that the Examiner withdraw the rejection.

Claims 1-19, 21, and 23-30 were rejected under 35 U.S.C. § 102(e) as being anticipated by Mayhew, U.S. Patent No. 6,493,866. Applicants respectfully traverse the rejection. As described in Col. 5, line 50 to Col. 6, line 60, the Mayhew reference discloses a method of assigning phases to phase shifters by selecting a first polygon as a starter polygon and placing the first polygon in a first layer called **start\_here** and the remaining polygons that touch the features in the **start\_here** layer in a second layer called **cumulate**. See Col. 5, line 65 - Col. 6, line 20. Phase shifter polygons in a **cumulate** layer are added to the **phase0** layer, and phase shifter polygons in the **start\_here** layer are added to the **output\_phase1** layer. Once a starter polygon is selected for the **start\_here** layer, the assignment of the remaining polygons to either the **phase0** layer or the **phase1** layer is determined by the polygon's position in the layout. See Col. 6, lines 21-47.

Applicants respectfully submit that nothing in the Mayhew reference appears to teach or suggest assigning a same phase shift amount or other property to polygons based on an analysis of grouped polygons in accordance with one or more design rules. For example, in one disclosed embodiment of the invention, the design rules determine an area represented by commonly

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grouped phase shifting polygons. A phase shifting amount, such as zero or 180 degrees, that is assigned to the commonly grouped polygons is selected to minimize the area that must be etched on a mask. Nothing in the Mayhew reference appears to teach or suggest how the particular phase shift amounts are assigned to the polygons in the **phase0** or **phase1** layers.

With respect to Claim 1, applicants submit that nothing in the Mayhew reference teaches or suggests the claimed combination of acts, including analyzing data structures assigned to the same data layer in accordance with one or more design rules after the data structures have been created, and fixing a property for each data structure in the same data layer in accordance with the analysis performed such that each data structure in the same data layer has the same property.

With respect to Claim 12, applicants submit that nothing in the Mayhew reference teaches or suggests the claimed combination of acts, including analyzing data structures assigned to a same data layer in accordance with one or more design rules after the data structures have been created, and assigning a common phase shift property to all the data structures that represent phase shifting regions and that are assigned to the same data layer in accordance with an analysis performed.

With respect to Claim 14, applicants submit that nothing in the Mayhew reference teaches or suggests a method for creating data for use in one or more photolithographic masks, including dividing the data structures that represent phase shifting areas into groups such that data structures that represent adjacent phase shifting regions are divided into different groups, analyzing the data structures that are commonly grouped with one or more design rules after the data structures have been created, and assigning a common property of each data structure that are commonly grouped in accordance with the analysis performed.

With respect to Claim 17, applicants submit that nothing in the Mayhew reference teaches or suggests a system for creating data used to produce one or more photolithographic

masks, comprising a computer system that executes a sequence of programmed instructions to group data structures that represent phase shifting areas such that data structures that are adjacent phase shifting regions can be separately analyzed, and analyzing the commonly grouped data structures with one or more design rules after the data structures have been created, and assigning the same property to each commonly grouped data structure in accordance with the analysis performed.

With respect to Claim 18, it is submitted that the Mayhew reference does not teach or suggest a computer readable medium on which is stored a sequence of instructions that cause a computer to perform the acts of dividing data structures that represent phase shifting areas into groups such that data structures representing adjacent phase shifting regions are divided into different groups, and analyzing the data structures that are commonly grouped with one or more design rules after the data structures have been created, and assigning a property of each data structure that is commonly grouped in accordance with the analysis performed such that each of the commonly grouped data structures is assigned the same property.

With respect to Claim 19, it is submitted that the Mayhew reference does not teach or suggest a system for producing one or more photolithographic masks, including computer means for receiving data and creating a number of data structures that represent areas on the photolithographic mask, at least some of which represent phase shifting areas and dividing the data structures that represent phase shifting areas into grooves, analyzing the data structures that are commonly grouped according to one or more design rules after the data structures have been created, and assigning the same phase shift amount to the commonly grouped data structures in accordance with the analysis performed.

With respect to Claim 21, it is submitted that the Mayhew reference does not teach or suggest a photolithographic mask that is produced by dividing data structures into groups such

that data representing adjacent phase shifting regions are in different groups. Analyzing the commonly grouped data structures with one or more design rules after the data structures have been created and assigning the same property to each of the commonly grouped data structures in accordance with the analysis performed.

Because the Mayhew reference does not teach or suggest at least these features of Claims 1, 12, 14, 17, 18, 19 and 21, it is submitted that the rejection is in error and these claims and the Claims that depend thereon including the new computer readable media Claims 31-33 are allowable. It is therefore requested that the Examiner withdraw the rejections and pass the application to issue.

Respectfully submitted,

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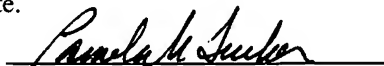
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Date: June 26, 2006



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